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IN THE CLAIMS:

1. (Cancelled)

1 2. (Previously Presented) The plasma-processing method of comprising:

providing a grounded electrode located within a process chamber;

mounting a silicon-containing substrate on a mounting unit comprising an electrode located within the process chamber;

generating plasma by feeding plasma-generating gas comprising fluorine-containing gas into the process chamber and causing a plasma discharge by applying a high frequency voltage across a volume of gas within said chamber between said mounting unit and the grounded electrode; and

etching the silicon-containing substrate with the plasma while keeping the silicon-containing substrate at a temperature of at least 40°C.

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wherein the silicon-containing substrate is a silicon wafer having a first side having a protective tape affixed thereon and a second side opposite the first side,

wherein said mounting the silicon-containing substrate comprises mounting the silicon wafer on the mounting unit with the protective tape located between the wafer and the mounting unit, and

wherein said etching the silicon-containing substrate comprises etching the second side while the mounting unit is held at the temperature.

2 3. (Previously Presented) The method of claim 2, additionally comprising removing from the second side of the silicon wafer a stressed layer previously formed by polishing or grinding, and removing the stressed layer before etching the second side.

3 4. (Previously Presented) The method of claim 2, wherein the said temperature is below a heat resistance temperature of the protective tape.

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5. (Cancelled)

*presented*

46. (Previously Added) The method of claim 2, wherein the fluorine-containing gas is selected from the group consisting of carbon tetrafluoride and sulfur hexafluoride.

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5. (Cancelled)

*Presented*

6. (Previously Added) The method of claim 2, wherein the fluorine-containing gas is selected from the group consisting of carbon tetrafluoride and sulfur hexafluoride.